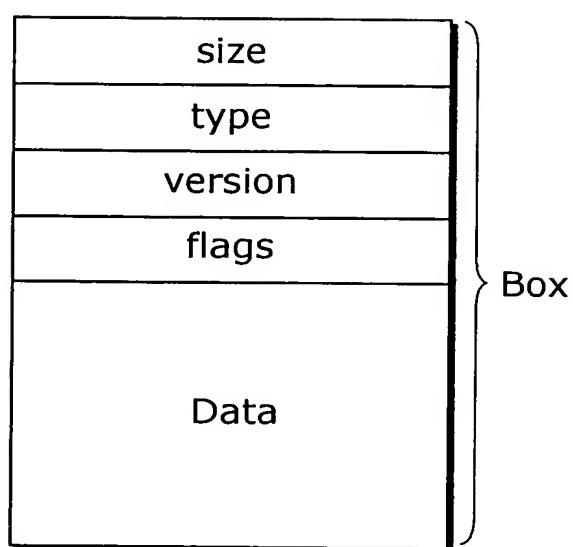


FIG. 1



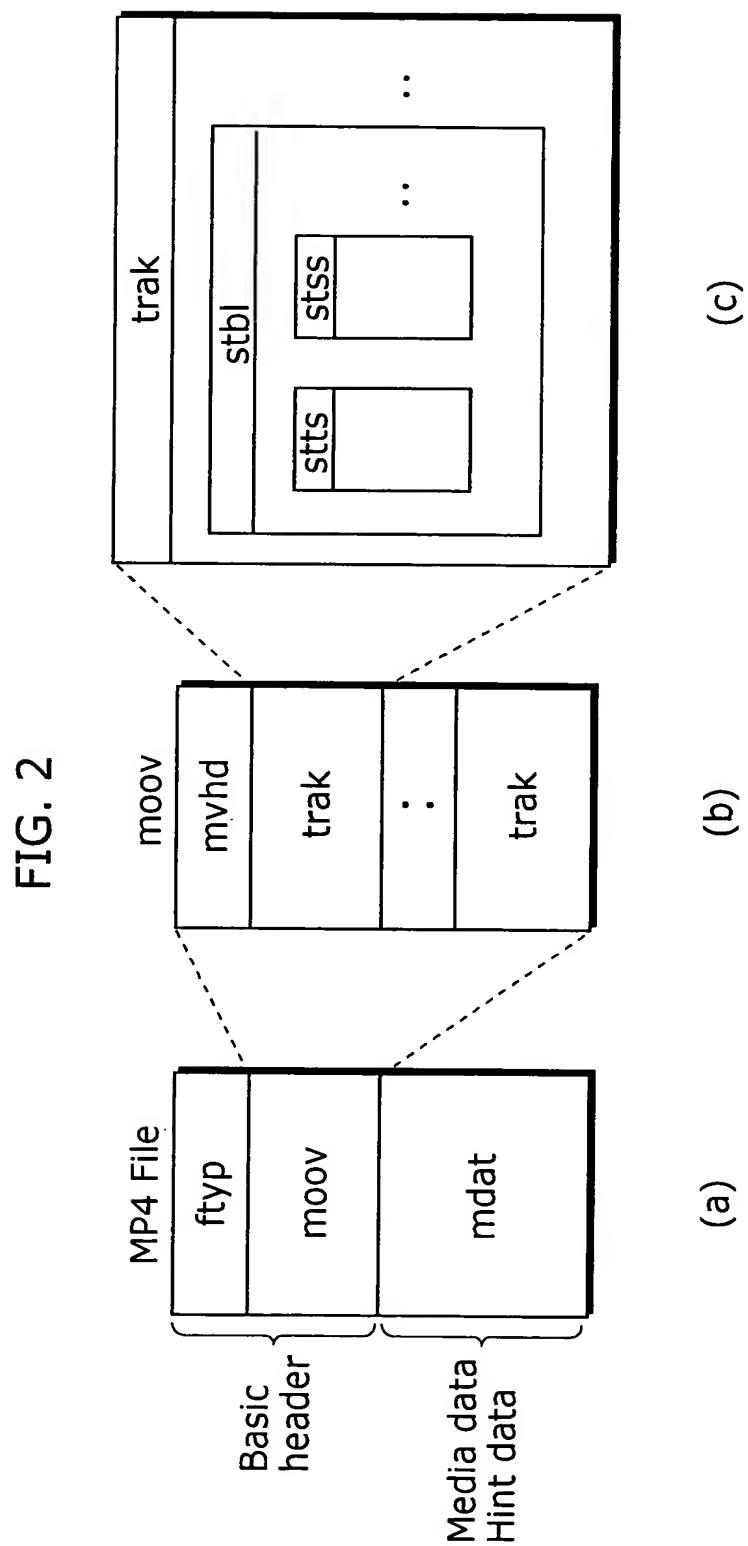


FIG. 3

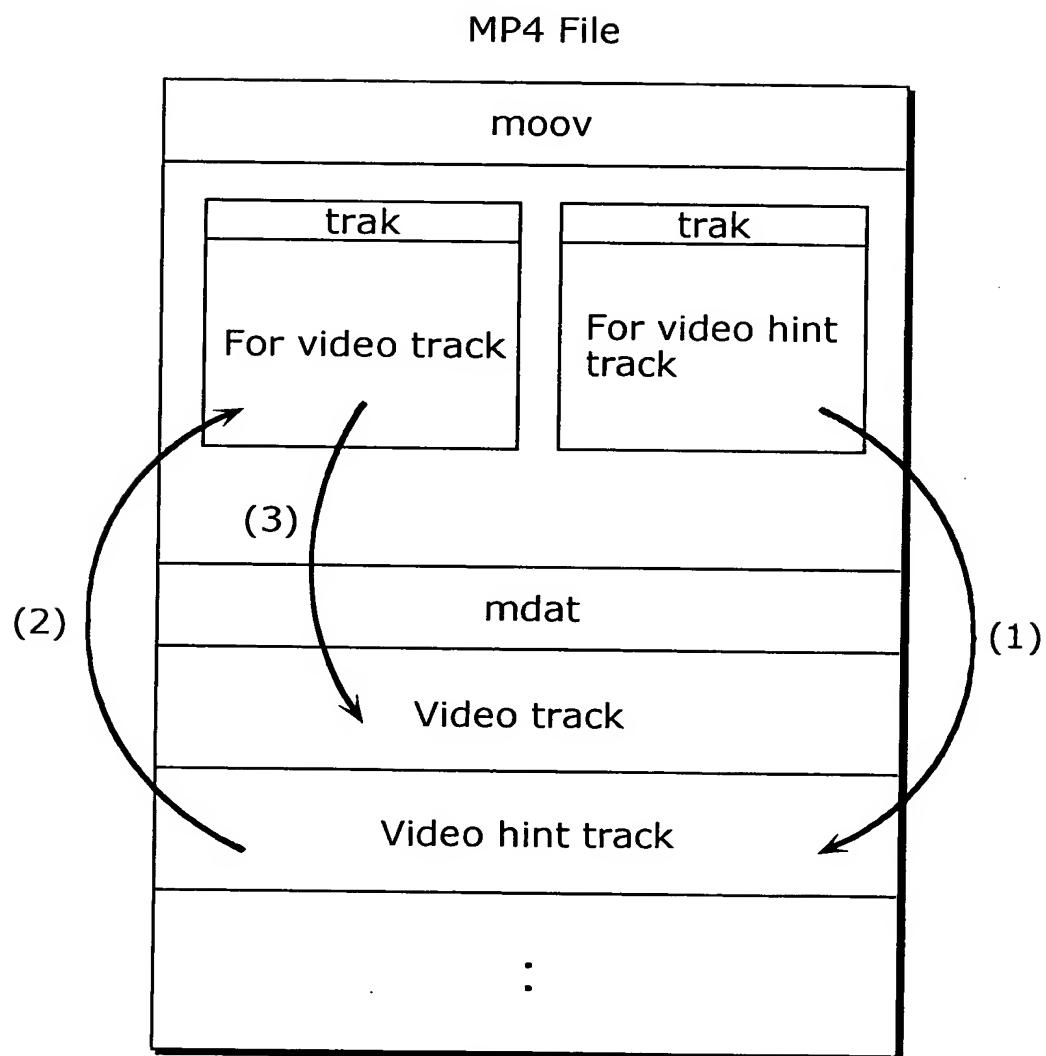


FIG. 4

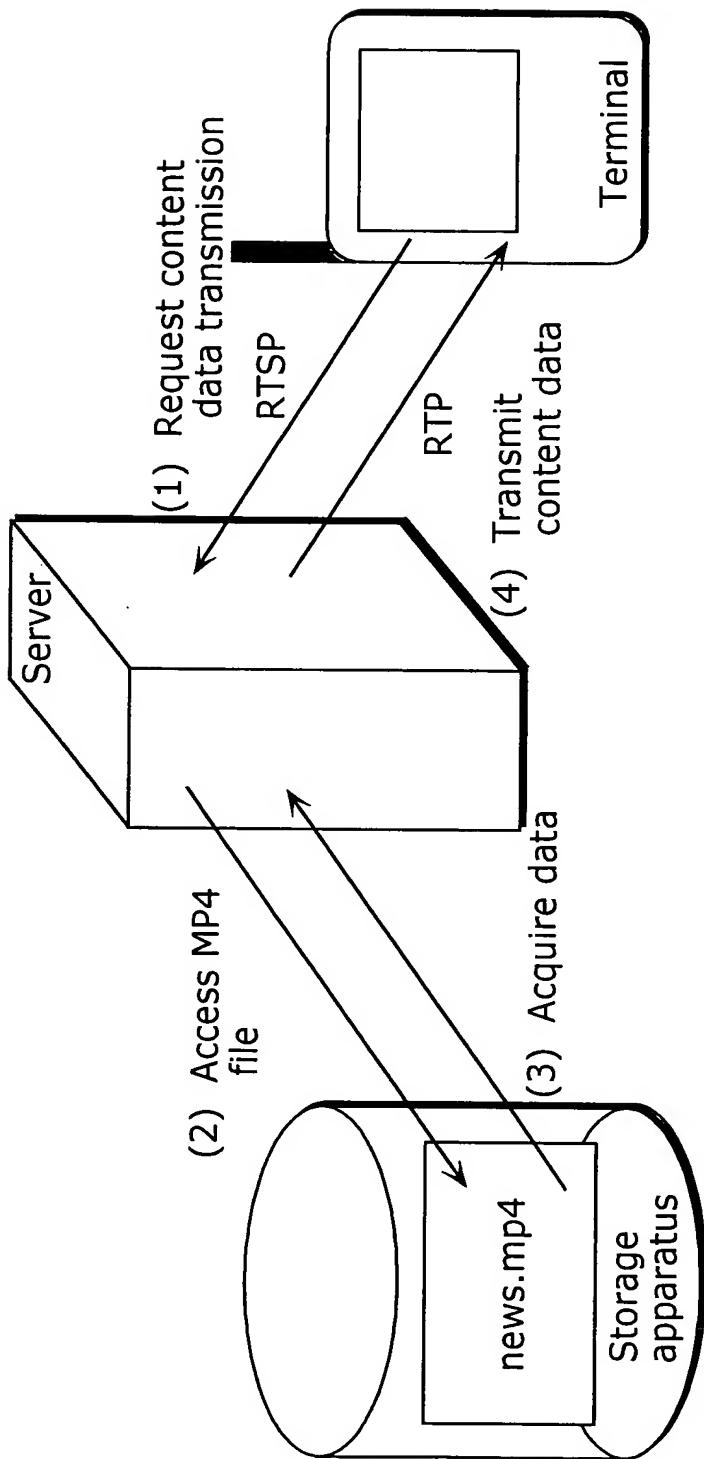


FIG. 5

(1)C->S	DESCRIBE rtsp://localhost/news.mp4 RTSP/1.0 Accept: application/sdp
(2)S->C	RTSP/1.0 200 CK Content-Type: application/sdp Content-Length: 568
	$ \begin{array}{l} \text{v=0} \\ \text{O=-1 IN IP4 100. 100. 100. 00} \\ \text{C=IN IP4 0.0.0.0} \\ \text{b=AS:64} \\ \text{a=control:rtsp://localhost/news.mp4} \\ \text{a=range:npt=0-60.000000} \\ \text{t=0} \\ \text{m=video 0 RTP/AVP 98} \\ \text{b=AS:64} \\ \text{a=rtpmap:98 MP4V-ES/90000} \\ \text{a=control:rtsp://localhost/news.mp4/trackID=3} \\ \text{a=fmtp:98 profile-level-id=8; config=000001b509000000100000000120000884007a82c2090a21f} \\ \text{a=range:npt=0-60.000000} \end{array} $
(3)C->S	SETUP rtsp://localhost/news.mp4/trackID=3 RTSP/1.0 Transport: RTP/AVP:unicast:client_port=16284-16285:ssrc=3643367607
(4)S->C	RTSP/1.0 200 OK Transport: RTP/AVP:unicast:client_port=16284-16285:ssrc=3643367607:server_port=11020-11021
(5)C->S	PLAY rtsp://localhost/news.mp4 RTSP/1.0
(6)S->C	RTSP/1.0 200 OK Range:npt=0.000-60.000 RTP-Info: url=rtsp://localhost/news.mp4/trackID=3;seq=10000
(7)C->S	PAUSE rtsp://localhost/news.mp4 RTSP/1.0
(8)S->C	RTSP/1.0 200 OK
(9)C->S	PLAY rtsp://localhost/news.mp4 RTSP/1.0 Range: npt=30.000-
(10)S->C	RTSP/1.0 200 OK Range: npt=30.000-60.000 RTP-Info: url=rtsp://localhost/news.mp4/trackID=3;seq=11441
(11)C->S	TEARDOWN rtsp://localhost/news.mp4 RTSP/1.0
(12)S->C	RTSP/1.0 200 OK

FIG. 6

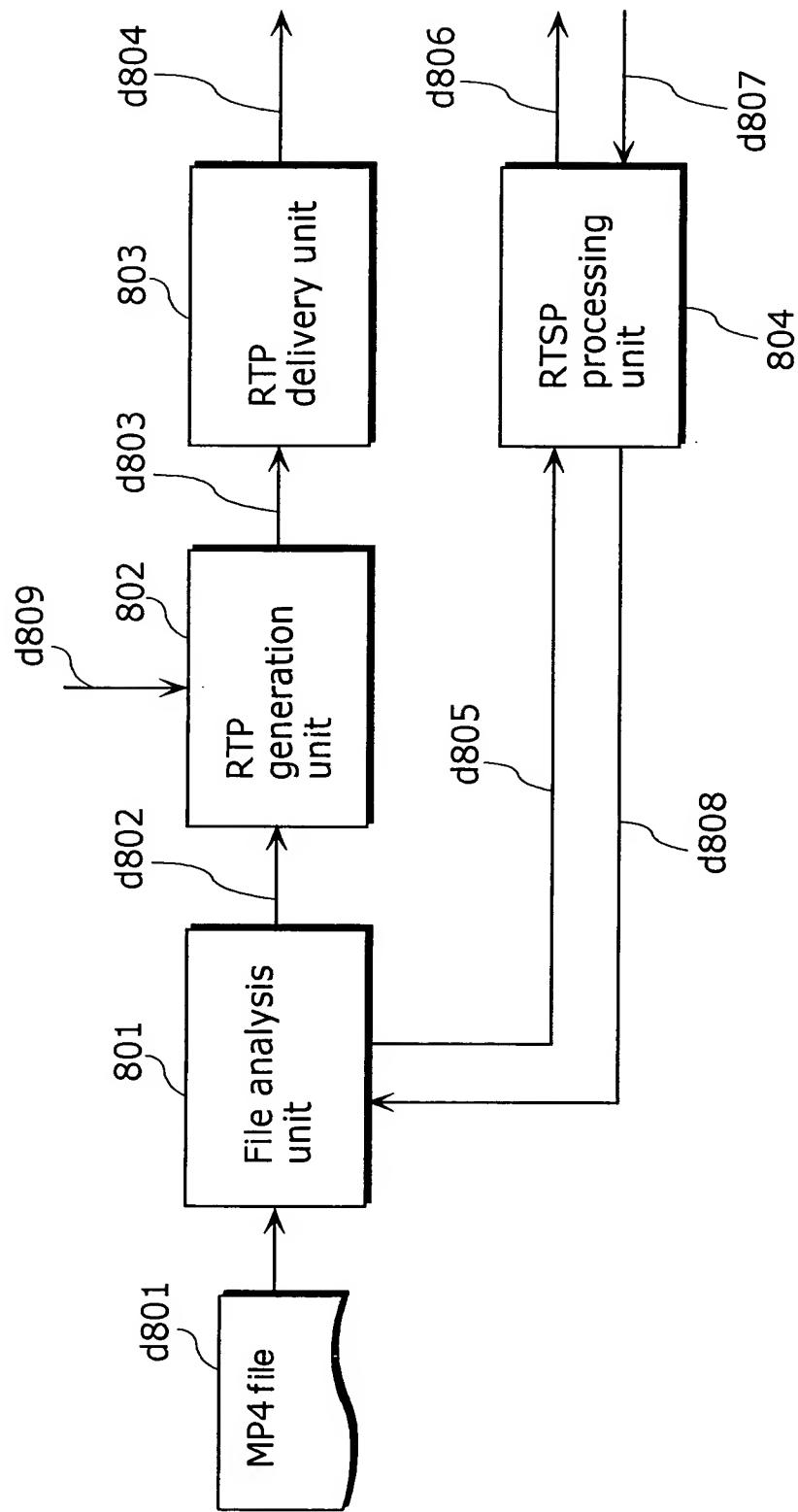


FIG. 7

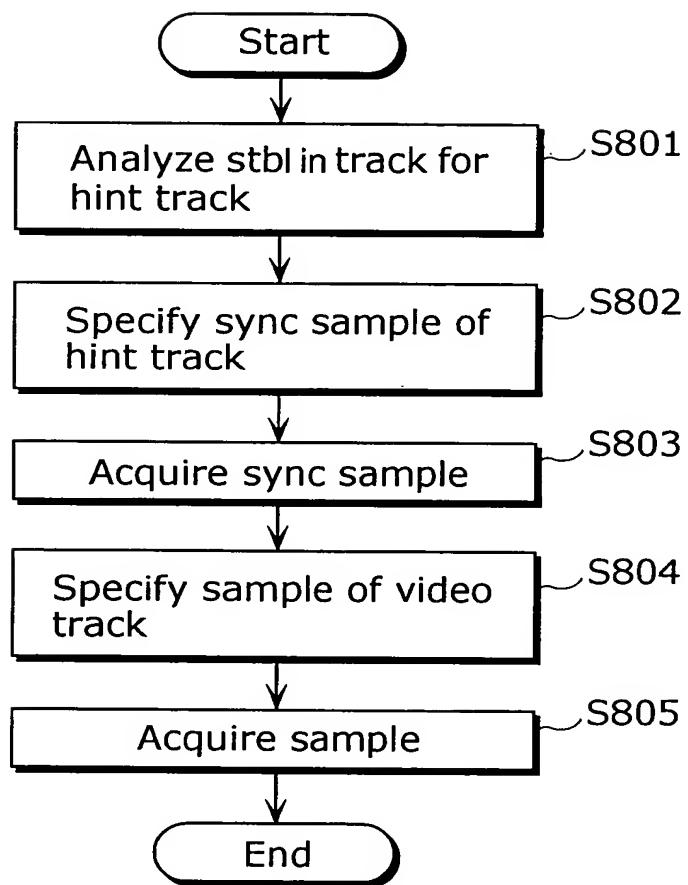
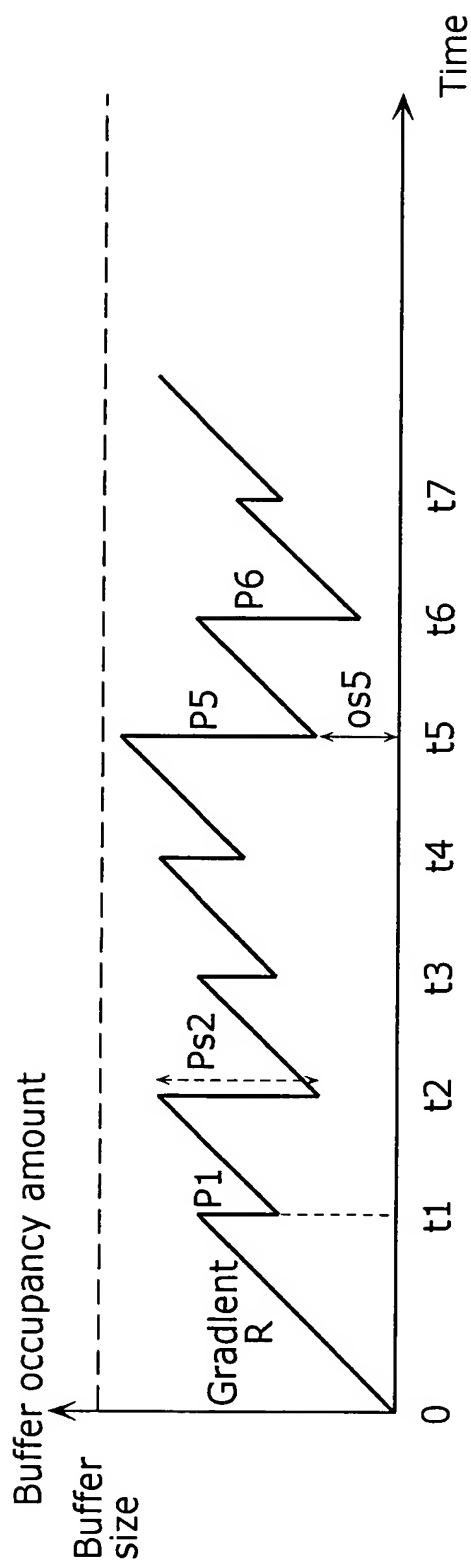


FIG. 8



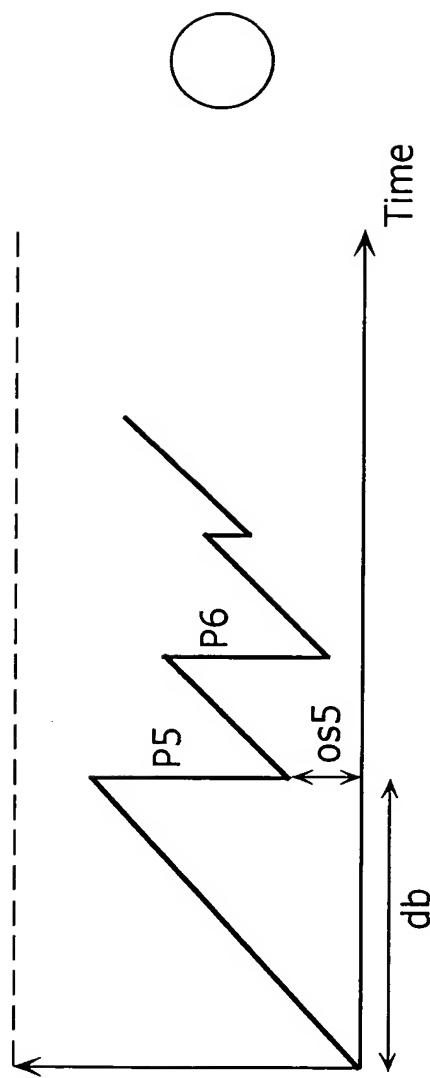


FIG. 9A

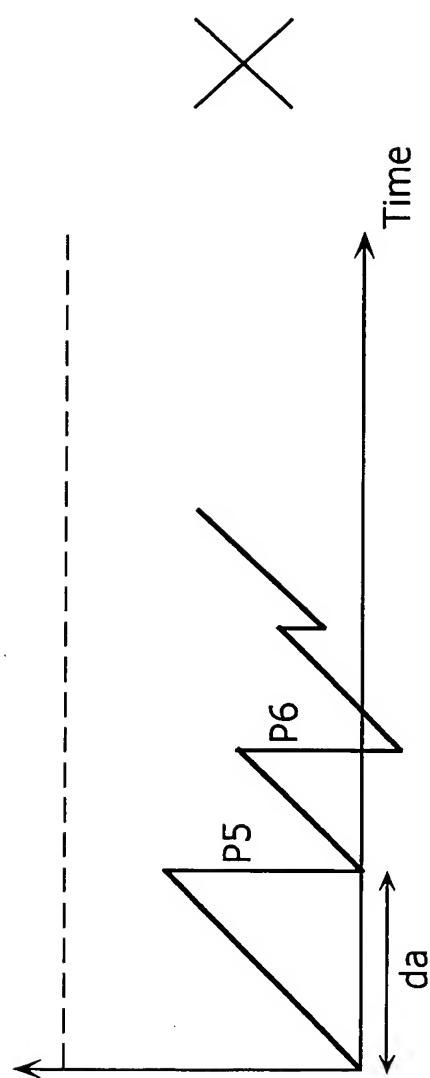


FIG. 9B

FIG. 10

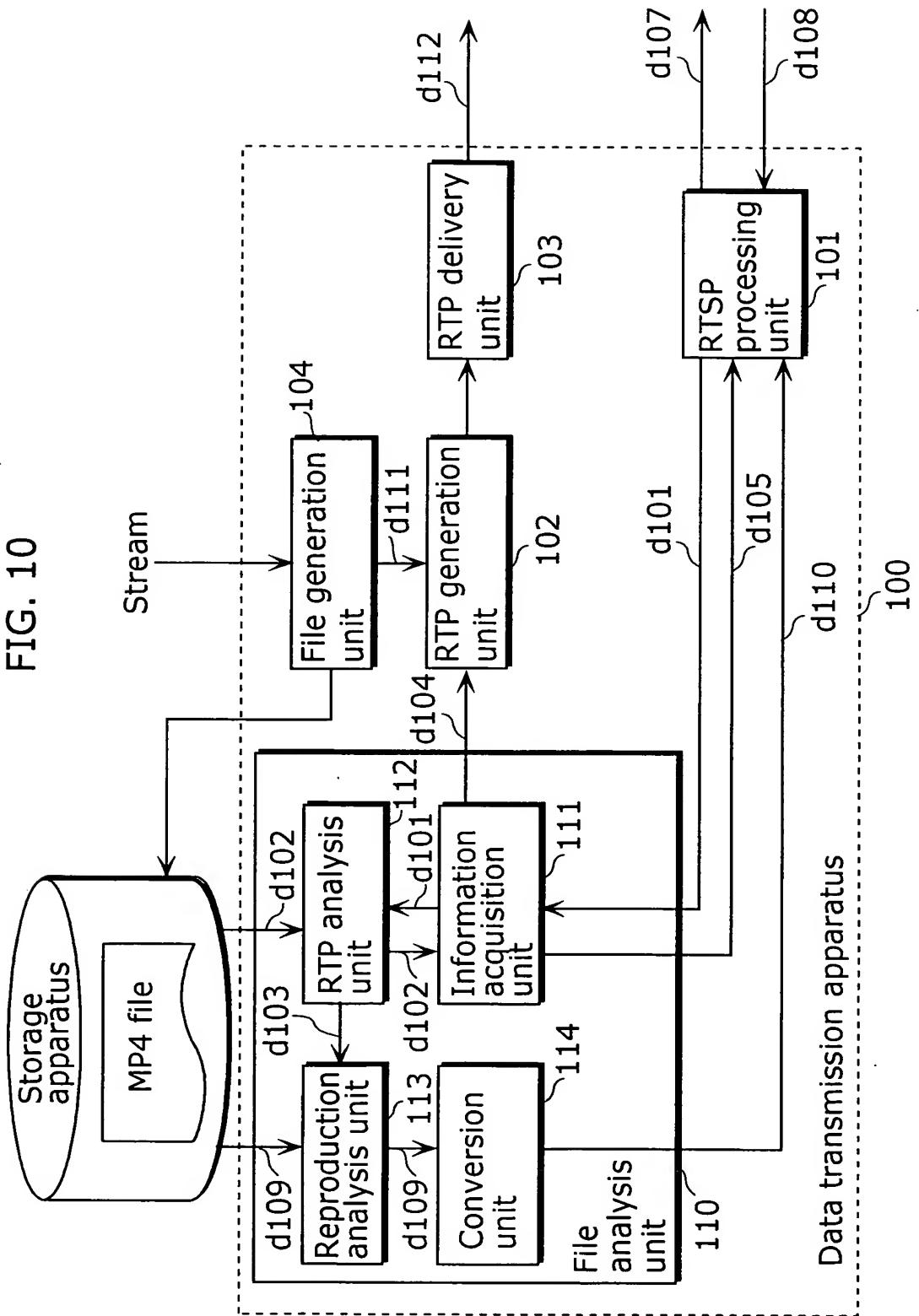
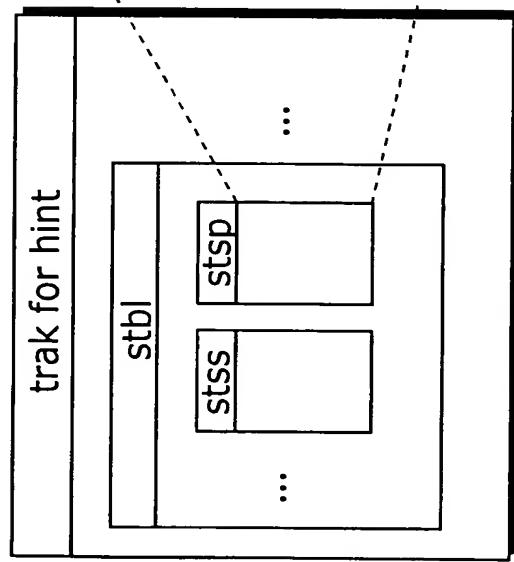


FIG. 11A



D109

Sync sample number	Necessary data amount for pre-buffering(byte)
1	15000
50	8000
100	12000
150	13000
..	..
300	9000
..	..

FIG. 11B

```

aligned (8) class SyncSampleToPrebufBox
extends FullBox ('stsp', version = 0, 0) {
unsigned int(32) entry_count;
int i;
for (i=0; i < entry_count; i++) {
unsigned int(32) sync_sample_number;
unsigned int(32) prebuf_data_byte,
}
}

```

FIG. 12A

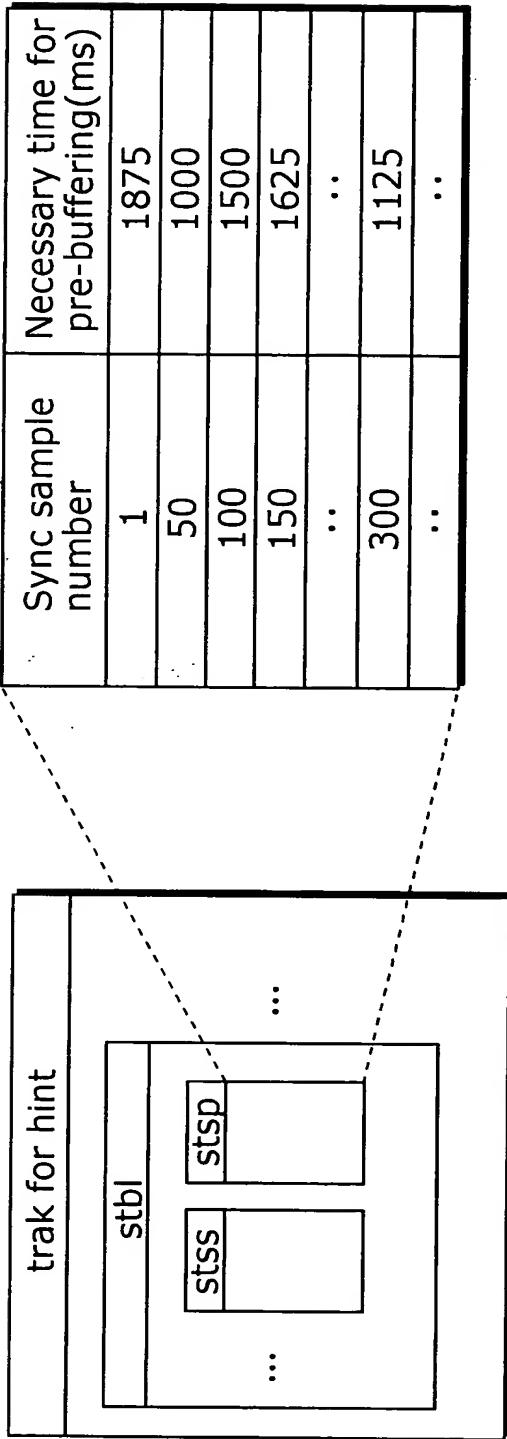


FIG. 12B

```

aligned (8) class SyncSampleToPrebufBox
extends FullBox ('stsp', version = 0, 0) {
unsigned int(32) entry_count;
int i;
for (i=0; i < entry_count; i++) {
unsigned int(32) sync_sample_number;
unsigned int(32) prebuf_period;
}
}

```

FIG. 13

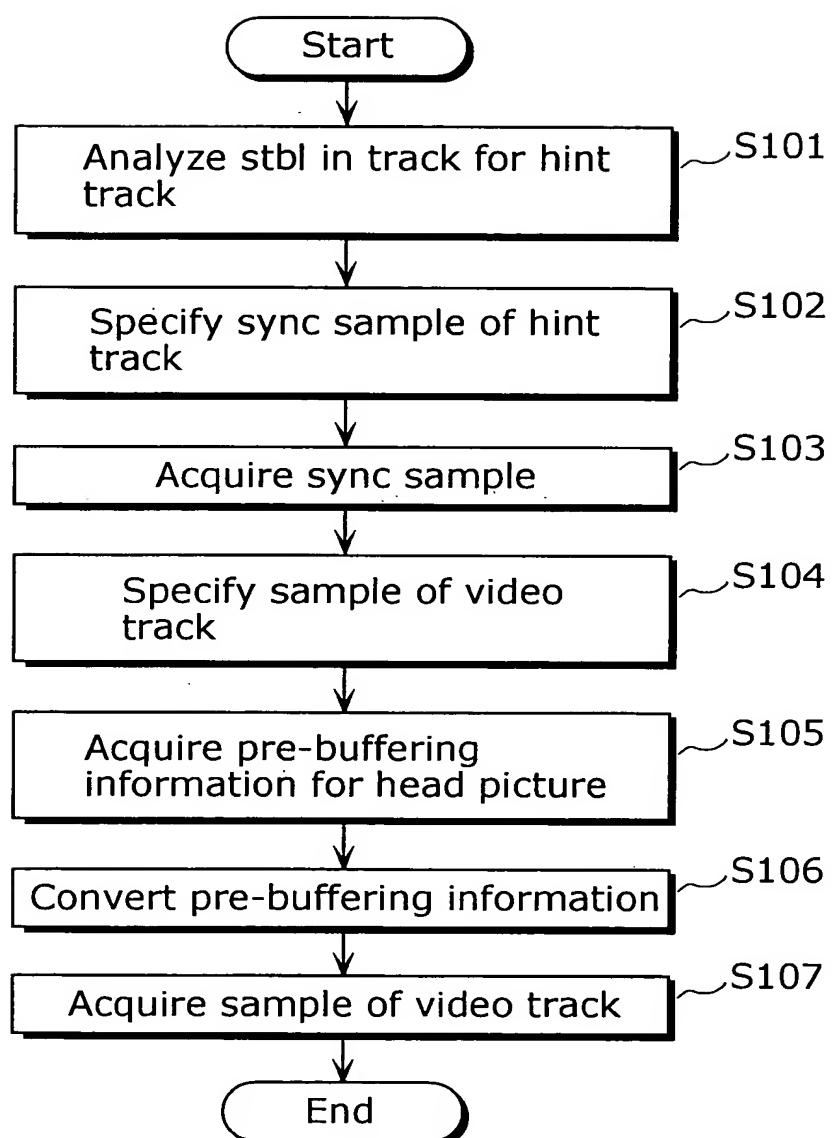


FIG. 14

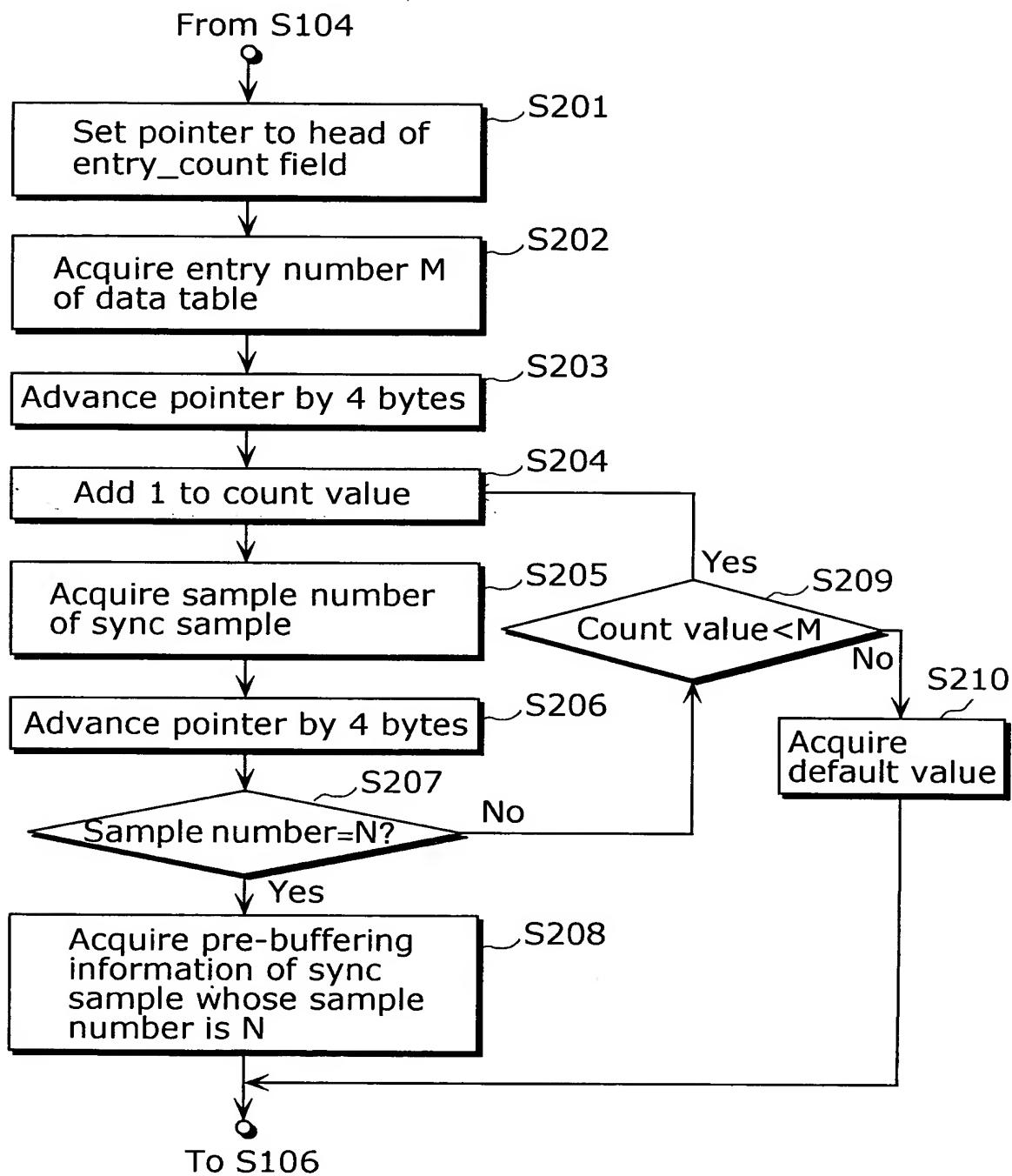


FIG. 15

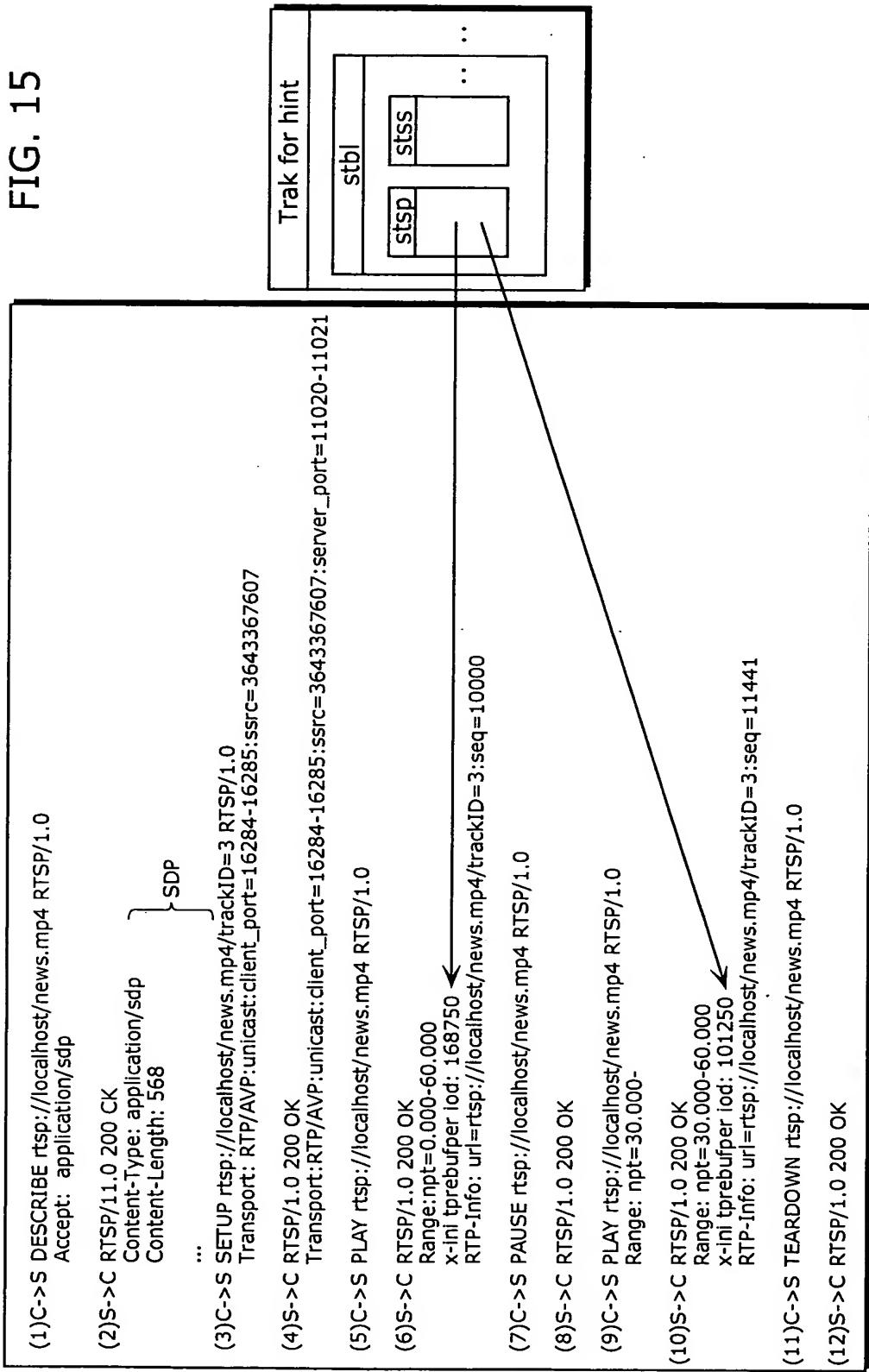


FIG. 16

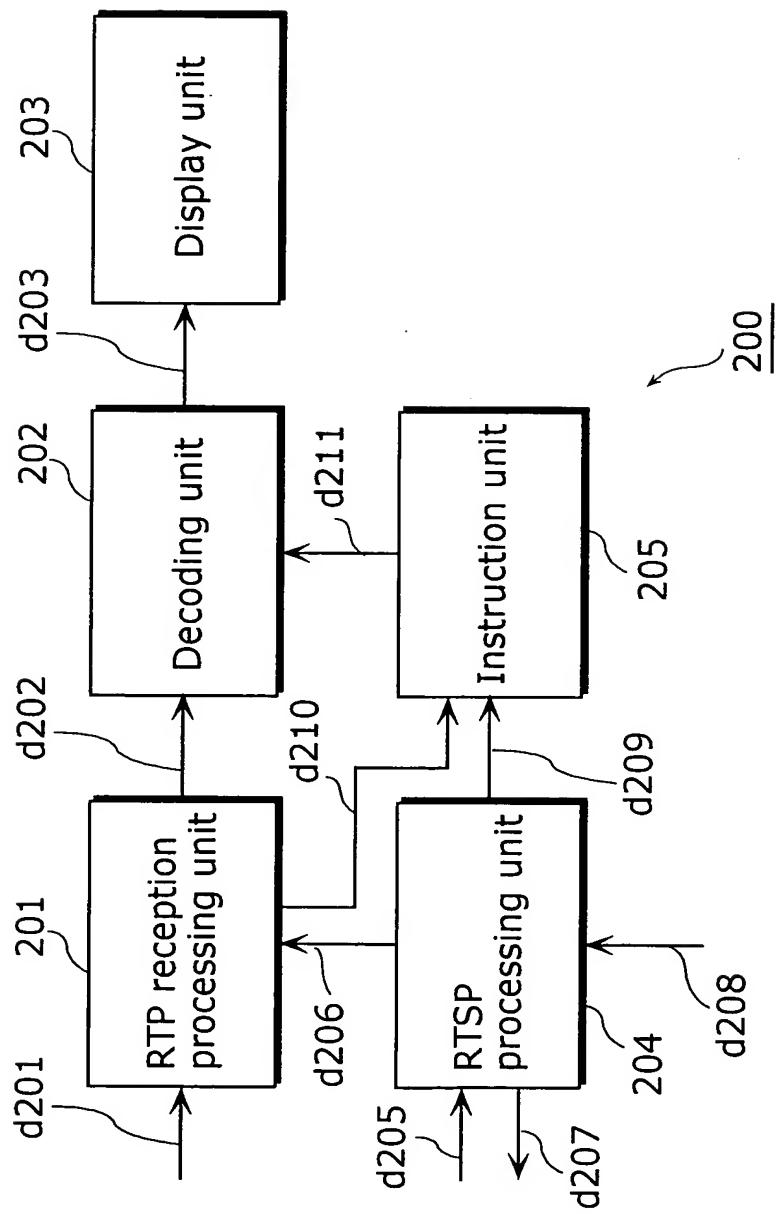


FIG. 17

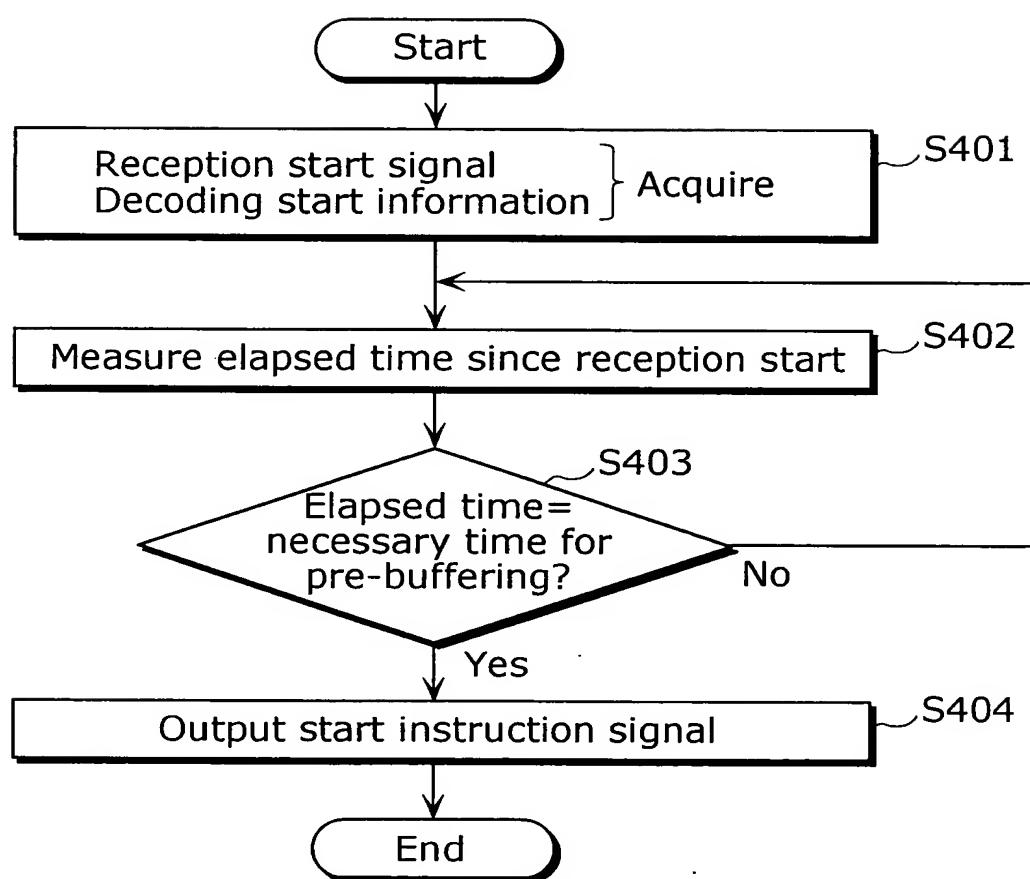


Fig. 18A

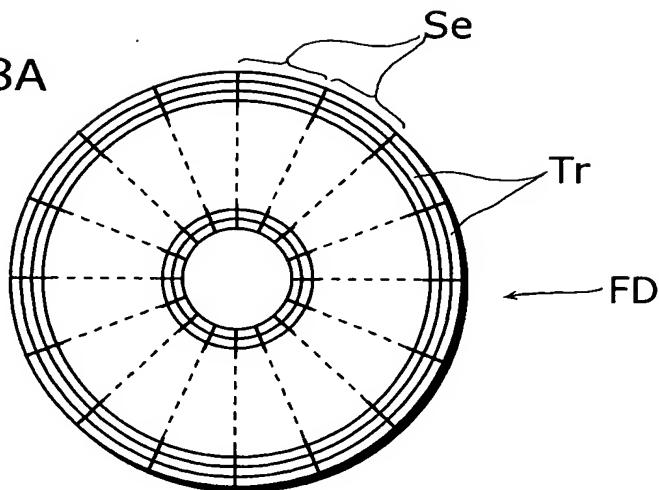


Fig. 18B

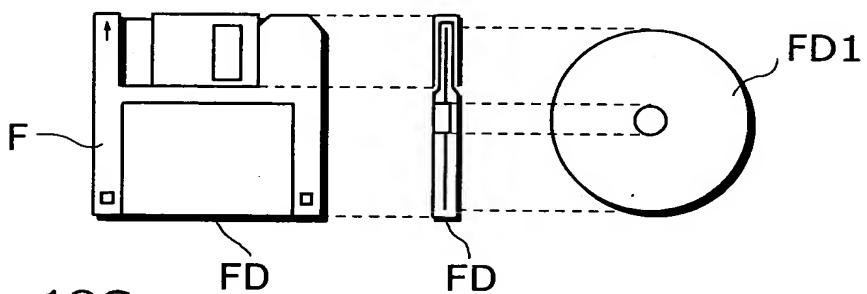


Fig. 18C

